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	Macro Tech Fill Receptacle Seal Replace			

Purpose

The purpose of this document is to outline the necessary procedures for replacing a Macro Tech fill receptacle seal while mounted on a Chart LNG vehicle tank.

Overview

The LNG fill receptacle is used to connect the vehicle fuel tank to the fill station when filling the tank. A fuel nozzle and hose is connected to the fueling station and attached to the fill receptacle for filling the tank. Occasionally a fill receptacle may exhibit signs of leaks around the receptacle seal. If the receptacle seal is leaking a determination must be made as to whether to replace the receptacle as an assembly, or replace the seal. This service bulletin covers seal replacement of the fill receptacle. A special tool kit is necessary in order to replace the seal. Do not attempt to replace the seal unless using the proper tools.

Safety

Any technician who inspects or services LNG vehicle fuel systems must wear appropriate personal protective equipment (PPE) while performing such tasks.

To replace the fill receptacle seal, precautions must be taken to ensure the receptacle and fill tubing are at ambient temperatures. Do not attempt to replace a fill receptacle seal immediately after filling, or while frost is still apparent on the receptacle, fill check valve or fill tubing. If frost is apparent the components can be defrosted using a low volume water stream such as a garden hose. Then all components must be blown completely dry with shop air. This will ensure no moisture will enter the fill piping circuit when components are disassembled. The replacement must take place in a covered and well lit environment.

Parts

Each receptacle will use one seal. The Chart part number for the seal is 20640025.

http://www.chartparts.com/Products/LNG/RECEPTACLE_REPAIR_KITS/SEAL_-_20640025.aspx


Tools

A one-time purchase of the following tool kit is necessary to be able to safely replace receptacle seals.

Chart part number for seal replacement tool kit – PN 20640023

http://www.chartparts.com/Products/LNG/RECEPTACLE_REPAIR_KITS/RECEPTACLE_REPAIR_KIT_-_20640023.aspx

This procedure is intended for use by trained technicians with experience on systems using LNG. Review all applicable safety documents before beginning this procedure.

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Seal Replacement Procedure

- Use a 13 mm wrench or socket to loosen the 4 bolts that secure the grill cover on the plumbing end of the tank on which the receptacle is to be replaced. Completely remove the bolts positioned at 3, 6 and 9 O clock. Wear protective gloves to handle the cover and remove the final bolt (12 O clock).
 - **Caution: The grill cover may have sharp edges that could cut your skin when handling.**
- Use a 1 ¼" wrench and loosen the fill tube flare nut ½ turn (shown below). Only the flare nut at the fill receptacle elbow will need to be loosened. Wiggle the fill tube by hand to loosen it from the flare. You should hear pressure escaping from the tubing. The pressure should bleed down to 0 psi within about a minute or less.
 - Note: It may be necessary to remove the nylon vent tube to gain easier wrench access to the fill tube retainer nut.
 - **Caution: If pressure does not bleed to 0 psi and continues to escape, the fill check valve may also need to be replaced. If the fill check valve needs to be replaced the tank will need to be completely de-fueled and vented to 0 psi prior to removing the fill check valve.**



Continue to seal kit instruction sheet on following page.

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Macro Technologies, LLC
Engineering Excellence80 GPM LNG Receptacle
Seal Repair Kit Instruction Sheet**NOTICE**

For your safety and improved service life of the product, please read directions before use and follow the safety instructions carefully.



Step 1. Remove the Retaining Ring using Item 4, Pliers.



Step 2. Remove Brass Retaining Washer.



Step 3. Turn handle on Item 1, Poppet Depressor, clockwise to move the poppet down until it clears the main bore.



Step 4. Remove old seal with Item 5, Pick Tools. Take Item 1, Poppet depressor, off Receptacle to create enough space to remove Seal from Receptacle.



Step 5. Place the new Seal with the open side down on a *clean, flat surface*. Carefully press Item 3, Seal Guide, into the Seal, large end first. The seal should hold itself on the ring with a snug fit.



Step 6. Slide the Seal and Seal Guide into Item 2, Seal Ring, with the closed end of the seal towards the ring. Place Item 2 and Item 3 (with new Seal still on Item 3) into the Receptacle.



Step 7. Place Seal into the Receptacle's bore and using Item 1, Poppet Depressor, press the seal firmly onto the poppet. Proper location is regulated by the tools, but should be visually verified prior to completing the installation.



Step 8. Remove Items 1, 2, and 3 from Receptacle. Seat the Brass Washer (non-beveled side down). Replace the Retaining Ring using item 4, Pliers

P/N T-3003
REPAIR KIT CONTENTS

- 1) Poppet Depressor
- 2) Seal Ring
- 3) Seal Guide
- 4) Retaining Ring Plier
- 5) Hook and Pick Set



Macro Technologies, LLC

12530 135th Ave NE, Kirkland, WA 98034

Phone: 425.825.8100 Fax: 425.825.8101

www.macrotechnologies.com

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- Use a 1 ¼" wrench to re tighten the fill tube flare nut at the fill receptacle elbow.
- If the nylon vent tube was previously removed for easier access, reinstall it and hand tighten (hand tight only) the nut onto the elbow.
- Install the protective cap onto the receptacle.
- Reinstall the grill cover using the 4 bolts and tighten using a 13 mm wrench or socket.

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